

True or false?

43.  $50.098 > 50.0098$       44.  $-36 > -34$       45.  $0.3 = 0.3000$   
46.  $0.008 = 0.8$       47.  $-8 < -80$       48.  $\frac{3}{4} = 0.75$   
49.  $-2 \in \{\text{whole numbers}\}$       50.  $-6 \in \{\text{irrational numbers}\}$   
51.  $\sqrt{3} \in \{\text{real numbers}\}$       52.  $-7 \in \{\text{integers}\}$   
53.  $\pi$  is not a rational number.      54. 0 is a rational number.  
55.  $4.343434\ldots \in \{\text{rational numbers}\}$   
56.  $0.121221222\ldots \in \{\text{irrational numbers}\}$   
57. If a number is rational, then it is an integer.  
58. If a number is an integer, then it is rational.

List the numbers in order from least to greatest.

59.  $-17, -9.5, -20, -8$       60.  $4, 2, 1, \sqrt{2}$       61.  $-0.03, -0.003, -0.3, -3$   
62.  $1\frac{3}{10}, 1\frac{7}{25}, 1\frac{1}{2}, 1\frac{9}{50}$       63.  $\frac{7}{8}, \frac{9}{16}, \frac{3}{4}, \frac{15}{24}$

Write each repeating decimal as a ratio of two integers.

64.  $0.\overline{142857}$       65.  $0.\overline{317}$       66.  $2.\overline{236}$

If the statement is true for all real numbers  $a$  and  $b$ , mark it *true*. If the statement is *not* true, mark it *false* and give a numerical example to show that it is not true.

67. If  $a > b$ , then  $a^2 > b^2$ .      68. If  $a^2 > b^2$ , then  $a > b$ .  
69. If  $d < 0$ , then  $d^2 < 0$ .      70. If  $c > d$ , then  $c + a > d + a$ .  
71. If  $c > d$ , then  $ac > ad$ .      72. If  $a = b$ , then  $a^2 = b^2$ .  
73. If  $a^2 = b^2$ , then  $a = b$ .      74. If  $d^2 > 0$ , then  $d > 0$ .  
75. The product of two rational numbers is a rational number.  
76. The product of two irrational numbers is irrational.  
77. The sum of two whole numbers is a whole number.  
78. The difference of two whole numbers is a whole number.